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Some new or otherwise noteworthy plants from the coastal plain of Georgia

ROLAND M. HARPER

In five seasons of botanical exploration in the coastal plain of Georgia I have accumulated a few plants of special interest which were not sufficiently studied in time to be mentioned in the separate reports for each season which have already been published.* All but two of those mentioned below are to be included in a flora of the Altamaha Grit region which is now in press, and it seems desirable to discuss them here in advance, so that they will not require a disproportionate amount of space in the flora.

LYCOPodium PINNATUM (Chapm.) Lloyd & Underw. Bull. Torrey Club **27**: 155. 1900

The name of this pine-barren plant is antedated by *L. pinnatum* Lam. (Encyc. **3**: 654. 1789), said by its author to grow on trees in the West Indies. This species was mentioned by Beauvois (Prodr. Aetheog. 110) in 1805, Swartz (Syn. Fil. 186) in 1806, and Poiret (Encyc. Suppl. **3**: 541) in 1813, but seems to have been overlooked or ignored by later authors. There is no possibility of its being identical with our plant of the pine-barrens, so the latter should be re-named; I therefore propose to call it **Lycopodium prostratum**, in allusion to one of the characters by which it differs conspicuously from its nearest relative, *L. alopecuroides*.

Sporobolus teretifolius sp. nov.

Culms tufted, wiry, 7–8 dm. tall, erect or nearly so: leaves wiry, flexuous, ascending or recurved, about half as long as the culms, less than 1 mm. wide, oval in cross-section, compressed laterally, grooved on the ventral side:† panicles about half the

* Bull. Torrey Club **28**: 454–484. *pl.* 29; **30**: 282–295, 319–342. *f.* 1–3; **31**: 9–27. *f.* 1–4; **32**: 141–171. *f.* 1–5; **32**: 451–467. *f.* 1–5.

† The following notes on the internal structure of this peculiar leaf may be of interest. The dorsal surface completely surrounds the leaf, and is remarkably smooth, without perceptible furrows or trichomes. The ventral surface is confined to the very

length of the culms, diffusely branched: spikelets yellowish, 3–4 mm. long, solitary on capillary diverging pedicels 5–15 mm. long: scales acute, the outermost one half to two thirds as long as the rest.

A very distinct species, related to *S. Curtissii* (Vasey) Small and *S. floridanus* Chapm. *S. Curtissii* has stiffer and broader leaves of very different structure,* and its spikelets are chestnut-colored, mostly appressed to the nearly straight ascending branches of the subsimple panicle, and longer, with the scales more attenuate and the outermost nearly as long as the rest. The inflorescence of *S. floridanus* is more like that of the new species, except that the spikelets are purplish and more numerous, but the whole plant is much stouter, and the leaves are nearly flat and often 5 mm. broad.†

Sporobolus teretifolius is a frequent and characteristic inhabitant of moist pine-barrens in the Altamaha Grit region,‡ flowering from July to September. I have collected it in Coffee County near Douglas, September 22, 1900 (no. 677), and in Colquitt County

narrow groove, the depth of which at the middle of the leaf is about two fifths of the

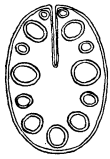


FIGURE 1. Cross-section (somewhat schematic) of leaf of *Sporobolus teretifolius*, enlarged about 20 diameters.

longest diameter of the leaf. In this groove are a few very short conical hairs. Stomata occur on both surfaces, but are most noticeable in the groove. The leaf figured herewith (taken from an undistributed specimen of my no. 1642) contained thirteen vascular (mestome) bundles, of various sizes, as indicated in the figure. The central portion is filled with large-celled colorless parenchyma, without perceptible intercellular spaces. Between the vascular bundles and the epidermis the cells (stereome) are very dense and thick-walled, their cavities being scarcely perceptible. The chlorophyll seems to be confined to the peripheral cells of the bundles.

* In *Sporobolus Curtissii* the leaf is about 2 mm. wide when flat, but usually becomes conduplicate when dry. There is a well-marked groove on either side of the midrib, both above and below, and in the ventral grooves can be seen the bulliform cells by means of which the opening and closing of the leaf is accomplished. There are nine mestome bundles, four on each side of the midrib.

† See Bull. Torrey Club 28: 464, 465. 1901.

The ranges and habitats of these three species will be contrasted in my forthcoming flora. Morphologically the distinction between them and certain species of *Muhlenbergia* (belonging to the section *Trichochloa* of many authors, or genus *Podossemum* of Desvaux) is a rather subtle one. In aspect as well as in habitat and distribution the diffuse-panicled species of *Sporobolus* and *Muhlenbergia* seem more closely related to each other than to the original species of either genus.

‡ See Torreya 5: 114. 1905.

near Moultrie, September 20, 1902 (*no. 1642*). (In the herbarium of the New York Botanical Garden *no. 677* happens to be the best specimen, but I will designate *no. 1642* as the type because I have distributed more specimens of it, and still have some left.) It is unmistakable when seen in the field, and I have also noted it in similar situations in the counties of Dodge, Irwin, Berrien and Dooley. A specimen in the Columbia University herbarium collected by Prof. S. M. Tracy in the vicinity of Irby P. O. (Cycloneta sta.), in Irwin County, July 28, 1890 (distributed as *Muhlenbergia trichopodes*) is evidently the same thing. No stations for it outside of the Altamaha Grit region are yet known.

SPARTINA BAKERI Merrill, Bull. Bureau Plant Industry U. S.
Dept. Agr. 9 : 14. 1902

In a recent paper * I described an unidentified *Spartina* (*no. 2187*) collected near Brunswick in May, 1904, and referred it doubtfully to *S. junciformis*. A few days later I came across the original description of *S. Bakeri* (a species which I had overlooked before because it was not represented in the herbaria in New York nor mentioned in Dr. Small's flora), and recognized it at once as belonging to my plant. Prof. A. S. Hitchcock has since kindly compared one of my specimens with the type in the U. S. National Herbarium and pronounces them identical. *Spartina Bakeri* was based on a specimen from Orange County, Florida, and was reported at the same time from several other stations in the eastern and central parts of that state; but my station seems to be the first outside of Florida.

RHYNCHOSPORA LEPTORHYNCHA [Wright?] Sauv. An. Acad.
Cienc. Habana 8 : 84. 1871

Originally described from Cuba (" *En lagunas de poca profundidad, en los pinales de la Vuelta de Abajo* "), this species, or something very near it, has turned up in pine-barren ponds in Georgia. I have specimens from Sumter (*no. 467*, August 23, 1900) and Pulaski (*no. 1377*, June 26, 1902) counties in the Lower Oligocene region, and have noted it about three miles south of Douglas in the Altamaha Grit region. All my specimens have

* Bull. Torrey Club 32 : 458. 1905.

the stem stiffly curved through an arc of 45° – 60° between the uppermost cluster of spikelets and the next one below it, a character which does not appear in the type-specimens (Wright's *no.* 3784). Furthermore, it is very unusual for a species growing in the pine-barren ponds of Georgia to be identical with one in the West Indies ; but the structural difference above mentioned can hardly be considered as of specific value by itself.

JUNCUS BIFLORUS Ell. Bot. S. C. & Ga. 1 : 407. 1817

J. marginatus biflorus Chapm. Fl. So. U. S. 495. 1860.

J. marginatus pinetorum Nash, Bull. Torrey Club 22 : 145. 1895 ;

Heller, Cat. N. Am. Pl. 31. 1898 ; Hitchcock, Trans. Kans.

Acad. Sci. 17 : 82. 1901. (Name only.)

J. aristulatus pinetorum Coville ; Small, Fl. S. E. U. S. 259. 1903.

The first locality mentioned by Elliott for his *Juncus biflorus* is "10 miles from Savannah, on the road to Augusta." With a view of settling the identity of this species I went to the spot indicated on June 18, 1903, and found it to be right in the village of Monteith, Chatham County. I soon saw a plant answering the description, but as its habitat there had been too much damaged by civilization, I went about a mile away before collecting any of it. My *no.* 1842, from the vicinity of the nearby station of Meinhard, may reasonably be considered typical. It is essentially the same as a plant which is common in the pine-barrens of Georgia and some adjoining states, and differing from its nearest relatives, *J. marginatus* and *J. aristulatus*, by the characters pointed out by Dr. Chapman and Mr. Coville. It is so frequent in Georgia that I will cite only the stations where I have collected it, which are in the following counties : Sumter (478, 483), Screven (784, 788, both from that part of the county which has just been put into the new county of Jenkins), Bulloch (868, an excellent specimen), Washington (1328), Laurens (1373), Charlton (1495), Chatham (1842), and Bryan (1846). Unlike its nearest relatives, it is strictly confined to the coastal plain, and grows usually in moist pine-barrens, but sometimes even in dry pine-barrens or on sand-hills. It is said to range from North Carolina to Florida, and it will doubtless hereafter be found farther west. In Georgia it flowers in May and June.

***Juncus scirpoides compositus* var. nov.**

Rootstocks, stems and leaves essentially similar to those of *J. scirpoides* Lam. (as that species is commonly interpreted). Flowers in short dense spikes, which are aggregated to the number of about half a dozen in each of the numerous subglobose heads about 8 mm. in diameter: sepals acute, 2 mm. long: capsules beaked, about 2.5 mm. long,

The form here proposed as a new variety has been collected by several botanists, but hitherto always included in *J. scirpoides*. It was briefly described by Chapman (Fl. So. U. S. 494) in 1860, and a few years later by Engelmann (Trans. Acad. Sci. St. Louis 2 : 468, 469. 1868), who placed it as a form of his *J. scirpoides macrostemon macrostylus*, but without giving it a name. *J. scirpoides* normally has heads spherical and not perceptibly lobed, sepals 3 mm. and capsule often 5 mm. long. I have never had any difficulty in recognizing the new variety in the field, even from dead specimens nearly a year old; and in the herbarium it is as easily distinguished from *J. scirpoides* as are *J. megacephalus*, *J. brachycarpus*, and perhaps others. In view of its distinctness (which may some time perhaps entitle it to specific rank) there can be no object in letting it remain longer unnamed.

My specimens are from a shallow pond in the sand-hills of the Satilla River near the center of Coffee County, July 25, 1902 (*no.* 1445). I have seen the same thing in the counties of Dodge and Berrien, which are likewise in the Altamaha Grit region, and McIntosh, Wayne and Charlton in the flat pine-barren country, usually around sand-hill ponds and bogs. Its habitat is distinctive, and usually not shared by any other *Juncus*. It seems to flower mostly in July.

I have examined the following specimens besides my own :

SOUTH CAROLINA : " Damp margin of an old millpond, Aiken, with *Juncus dichotomus*, etc.," July 2 and 28, 1868, H. W. Ravenel (Engelm. Herb. Junc. Bor. Am. Norm. *no.* 67).

FLORIDA : Low grounds near Jacksonville, September, A. H. Curtiss (*no.* 2981*). Near Jacksonville, July 19, 1893, A. H. Curtiss (*no.* 4152). Moist ground near Jacksonville, Sept. 1, 1894, A. H. Curtiss (*no.* 5176). Sandy swamps, Apalachicola, 1896, Chapman (Biltmore Herb. *no.* 4082a). Low pine land near Eustis, June 9, 1894, G. V. Nash (*no.* 917). Tampa, Britton & Wilson,

Aug. 25, 1903 (*nos.* 30, 63). Hammocks, Ft. Lauderdale, Nov. 19 or 25, 1903, Small & Carter (*no.* 1139).

MISSISSIPPI: Cat Island, Aug. 28, 1900, Lloyd & Tracy (*no.* 364).

It would have been appropriate to make the specimen distributed by Engelmann the type, but as it apparently did not come from a natural habitat, I will designate my own instead.

POLYGONELLA GRACILIS var. ?

On the sand-hills of Seventeen Mile Creek in Coffee County I collected in September, 1903, some specimens of a curious *Polygonella* (*no.* 2010) with linear acute leaves 5 to 8 cm. long, but otherwise indistinguishable from *P. gracilis* (Nutt.) Meisn., which normally has cuneate-obovate leaves 2 to 4 cm. long. The typical form was not observed in the vicinity, and I have never even seen it in the same county. Whether my plant should be called a new species, variety or form cannot be determined without further study, so I will leave it unnamed for the present.

Nymphaea fluviatilis sp. nov.

Rootstocks horizontal, about 3 cm. in diameter, the leaf-scars rather remote: leaves of two kinds, submersed and floating, both kinds glabrous throughout or essentially so; floating leaves with blades 12-25 cm. long by 10-20 cm. broad, their sinuses narrow or closed and about one third the length of the blades; petioles terete, about 5 mm. in diameter and often 2.5 meters long; submersed leaves about half the dimensions of the floating ones, with petioles not over 3 dm. long, and blades nearly as broad as long, very thin and crisped: peduncles similar to the petioles: flowers about 3 cm. in diameter: fruit green.

Nymphaea fluviatilis seems to be quite common in creeks, small rivers, and the swamps of large rivers, but apparently never in ponds, in the coastal plain. I have seen it in the Savannah River swamp in the southeastern corner of Effingham County, in Rocky Comfort Creek near Louisville, in Buckhead Creek near Millen, in the Ogeechee River near Chalker, Millen, Rocky Ford, Dover, and Meldrim, in the Canoochee at the type-locality (mentioned below), in the Ohoopsee near Ohoopsee and Reidsville, in the swamps of the Altamaha near Doctortown and Barrington, in the Oconee

swamps near Mount Vernon, in the Little Ocmulgee near Lumber City, in Echeconnee Creek near its mouth (on the line between Bibb and Houston counties), in the Ocmulgee River swamps near Abbeville, in the Withlacoochee near Nashville, and in the Flint River swamps in Crawford County near Everett ; nineteen stations in all.

My specimens were collected on the morning of June 22, 1903, in sloughs of the Canoochee River near Groveland, in the north-western corner of Bryan County. The river was rather low at the time,* and many of the floating leaves were left hanging high and dry in the nearby bushes by the receding water, presenting a rather unusual appearance (see FIGURE 2).

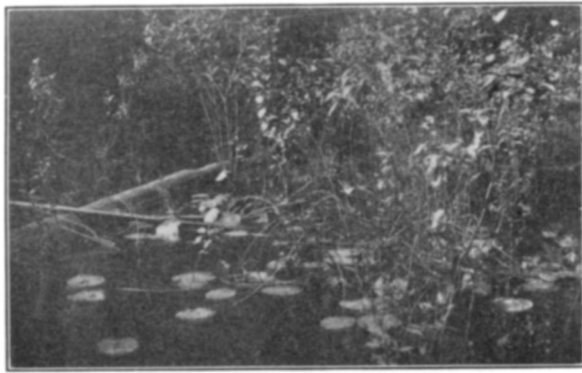


FIGURE 2. *Nymphaea fluvialis* at the type-locality, photographed at time of collection. Note the very long petioles suspended above the water.

Nymphaea fluvialis seems nearest related to *N. macrophylla* Small, a species said to range from Florida to Louisiana, from which it differs principally in its much slenderer rootstocks, longer and slenderer petioles, smaller leaf-blades with narrower sinuses, and smaller flowers. Accounts of different collectors differ as to whether the leaves of *N. macrophylla* are floating or emersed, but it is certainly not known to have any submersed leaves. It is almost superfluous to compare *N. fluvialis* with the other south-eastern species ; but it differs from *N. advena* in having its princi-

* See U. S. Geol. Surv. Water Supply & Irrigation paper no. 98, pages 72 and 73, where some hydrographic measurements taken near the same place on the following day are given.

pal leaves floating, never erect, from *N. variegata* * in its terete petioles, from *N. sagittifolia* in the shape of its leaf-blades, and from *N. orbiculata* in habitat, smaller size of all its parts, and absence of silvery pubescence on the submerged portions.

The new species is undoubtedly the commonest representative of the genus in South Georgia, where only two other species are known, namely, *N. orbiculata* in some of the large ponds in the southern tier of counties, and an apparently undescribed species with red-bordered fruit in Long Pond, Lowndes County.† In Middle and Northwest Georgia I have seen only *N. advena*, and that only two or three times.

This genus presents a very interesting problem in geographical distribution. In eastern North America the species with floating leaves seem to be confined to the glaciated region and coastal plain, and the only one known in the Metamorphic and Palaeozoic regions is *N. advena*, with erect leaves.‡ This is of course largely due to the scarcity of permanent ponds in the older regions, but just why there should be no floating-leaved species in the streams of these regions is not clear.

Sarracenia minor × *psittacina*

In September, 1902, I found in moist pine-barrens near Okapilco Creek, in the center of Colquitt County, several specimens of an unfamiliar *Sarracenia* which appeared exactly intermediate between *S. minor* Walt. and *S. psittacina* Michx., both of which were growing not far away. It was not abundant enough to collect, however, and some attempts to photograph it turned out badly. So in August, 1903, I revisited the spot, only to find the creek swollen by recent rains, the desired specimens all under water, and collecting out of question.

No further light on the subject was received until May 16, 1904, when I was agreeably surprised to find the same thing in Douglas, within a few feet of the specimens of *S. flava* × *minor*

* See Miller, Proc. Biol. Soc. Wash. 15: 11-13. f. 1. pl. 2. 1902.

† See Bull. Torrey Club 31: 15. 1904.

‡ See in this connection Mr. Miller's paper just cited, also Rhodora 7: 69-80. 1905. Mr. Miller noted a marked difference in the ranges of the two plants he was discussing, and attempted to correlate them with temperature zones.

figured in a recent number of the BULLETIN.* Here again it was accompanied by the two species suspected of being its parents, as well as by *S. flava*. There were only a few specimens of the new hybrid, but being now convinced that I could find it elsewhere, I did not take any of them, but determined to look for it around Fitzgerald, in Irwin County, where I was going the same evening. On the morning of my departure from Fitzgerald, the 18th, my search was rewarded by finding about a dozen specimens of the hybrid about a mile east of the city, in company with the two parents, as usual. The specimens collected at that time, five in number, are numbered 2211. On the afternoon of the same day I saw the same thing, with its parents, about five miles southeast of Rochelle, in Wilcox County.

There can be no reasonable doubt as to the hybrid origin of this plant, and I will not attempt to characterize it, for words are almost inadequate for describing such curiously shaped organs as the leaves of *Sarracenia*,† particularly those of this hybrid. If the reader can imagine a plant exactly intermediate in appearance between *S. minor* and *S. psittacina* he will have a fair idea of the form in question.

An artificial hybrid between the same two species is called *S. formosa*, and the figure of it in Nicholson's Dictionary of Gardening (3: 365. f. 419) resembles my plant very closely.

Unlike *S. flava* × *minor*, the new hybrid seems to be fertile, for I have seen several specimens bearing old capsules. I have no information as to the color of its flowers, however.

AMELANCHIER sp.

On June 6, 1901, I collected in a sandy bog near Graymont, Emanuel County, some fruiting specimens of an *Amelanchier* (no. 819) which seems to differ from all described species. It is a shrub with horizontal subterranean stems, sending up slender

* 32: 462. f. 4. 1905. At this particular spot, which I have often visited, there are within an area not over 50 feet square about 50 species of moist pine-barren plants, including such things as *Taxodium imbricarium*, *Sporobolus teretifolius*, *Eriocaulon lineare* and *Baldwinia atropurpurea*, which are of particular interest to me for obvious reasons.

† It is probably for this reason more than any other that some of the most distinct species of this genus were confused by botanists of the first half of the 19th century.

erect flowering stems 4–6 dm. tall, bearing several short ascending sparingly pubescent branches above the middle. The leaf-blades are oblong, 1.5–4 cm. long and 1–2 cm. broad (the largest on young shoots), subacute at the apex, finely serrate nearly to the truncate or cuneate base, on petioles 6–10 mm. long. The upper surfaces are bright-green and shining, and reticulated with whitish veins, and the lower paler and minutely pubescent. The racemes are terminal, about 5 cm. long, 1 to 3 on each upright stem, few-flowered. Pedicels 6–12 mm. long, bearing 1 or 2 minute glands or tubercles near the middle. Petals unknown. Stamens numerous. Calyx-segments triangular, acute, 2 mm. long in fruit. Fruit globose, 5–7 mm. in diameter, purplish and glaucous.

The plant had very much the aspect of a small form of *Gaylussacia frondosa*, which grew with it. It seems to differ from all other southeastern species in its diminutive stature, shining leaves, and especially in habitat; but I do not care to name it without knowing more of its characters. On March 27, 1904, Mr. A. Cuthbert showed me some flowering specimens of what is probably the same thing in a similar habitat near Augusta, but I did not take any of them. If other botanists will look for this plant in the coastal plain of Georgia and the Carolinas we may soon know more about it.

RHEXIA ALIFANUS Walt. Fl. Car. 130. 1788

I can discover no good reason why this name should not supersede *R. glabella* Michx. Fl. Bor. Am. 1: 222. 1803. Walter's description is characteristic enough, and the two plants were recognized as identical or nearly so by Michaux himself, also by Poiret, Persoon, Pursh, Elliott, Torrey & Gray and Watson. Even if varietally or specifically distinct, Walter's name would still be entitled to recognition, for it is not known to be a synonym or homonym of any earlier species.

PROSPERPINACA sp.

In moist pine-barrens and branch-swamps in the Altamaha Grit region I have several times encountered a *Proserpinaca* which seems just intermediate between the two well-known species, *P.*

palustris and *P. pectinata*. In stature, diameter of stem, and length of leaves it is like *P. pectinata*, but the leaves, except some of the lowest, are not pinnatifid but merely toothed, a little more deeply than in *P. palustris*, however. It is too near Dr. Small's recently described *P. platycarpa** from South Florida to be described as a new species, and before it could be described as a new variety one would have to decide which of three species it should be appended to.

I have collected this problematic plant in the counties of Coffee (no. 1427) and Irwin (no. 2210), and have seen it in two or three other counties. *P. palustris* and *P. pectinata* both occur in the same region, but I have never seen them together, or either of them with the intermediate form; so the latter cannot be regarded as a hybrid.

? *AZALEA ARBORESCENS* Pursh

On the morning of July 21, 1903, I collected in rich damp woods at two stations in Randolph County a little north of Cuthbert a handsome *Azalea* with bright scarlet corollas (nos. 1894, 1897). Two days later I saw the same thing in similar situations near Fort Gaines, and the following week Dr. Eugene A. Smith found it in Barbour County, Alabama, a few miles farther west, and asked me to identify it. The late Rev. C. H. Hyde afterward informed me that he had known the plant in the vicinity of Cuthbert for years, but had never been able to place it correctly. An examination of specimens and literature after my return from the field showed it to be nearest related to *A. arborescens*, an Alleghanian species, from which it differs in its smaller size (being only a shrub), the midrib of the leaves appressed-strigose beneath, scarlet corollas, smaller calyx, and entire absence of glandular pubescence among the flowers. It does not seem advisable to describe it as new, however, until more differences are found. The color of the corollas might lead one to associate it with *A. lutea* L., but that is a vernal species, flowering about three months earlier (in the vicinity of Atlanta, the only region where I have seen it), while the plant under consideration flowers later than any other southeastern species.

* Bull. N. Y. Bot. Gard. 3: 432. 1905.

Typical *A. arborescens* is not definitely known south of the mountains of Georgia,* and the coastal plain form here discussed seems to be one of a small class of plants inhabiting the "mesophytic" forests of the Eocene region of Southwest Georgia and nearly but not quite identical with Alleghanian species. Other examples of this class are *Magnolia pyramidata* Pursh, *Thaspium barbinode* Chapmani C. & R., and *Rhododendron Cuthbertii* Small, all of which I have found in Randolph County.

BARTONIA LANCEOLATA Small, Fl. S. E. U. S. 932. 1903

This is probably identical with *B. tenella brachiata* Wood (Class-Book 586. 1861). If so this will not be the first time that a supposed new species proposed by one of the present generation of systematists has been found to have been already described as a variety by Wood, who seems to have had an exceptional faculty of recognizing previously unobserved characters in plants, though he was too conservative to describe many new species. The Vienna rules do not require any change of name in a case of this kind, however, so I will not undertake to increase the number of synonyms at present.

In studying our species of *Bartonia*, the papers by Robinson (Bot. Gaz. 26: 46-48. 1898) and Williams (Rhodora 2: 55-57. pl. 15. f. 1-7. 1900) will be found useful.

AMSONIA CILIATA Walt.

Two forms of this occur quite frequently in South Georgia, one with leaves two or three times as broad as the other. There are other slight differences, but scarcely enough to entitle both forms to specific rank, though they are distinguished easily enough and should receive some recognition in systematic works. As a rule the broader-leaved form grows in dry pine-barrens and the other on sand-hills. Correspondence a few years ago with Mr. E. G. Baker, of the British Museum, elicited the fact that the

*It is mentioned in Earle's Flora of the Metamorphic Region of Alabama (Bull. Ala. Agric. Exp. Sta. 119: 96. 1902), but in the absence of specimens it is impossible to ascertain whether the mountain or the coastal plain form is meant. Wood may have known our plant, for his description of *A. arborescens* (Class-Book 490. 1861) fits it very well, and one of the localities cited, Macon, Georgia, is on the edge of the coastal plain and only about 100 miles from Cuthbert.

specimen in Walter's collection was a broad-leaved form (matching very closely Curtiss's *no. 2269* from the vicinity of Aspalaga, Florida, according to Mr. Baker). The narrow-leaved form is in all probability what Rafinesque described as *A. tenuifolia* (New Fl. N. Am. 4: 58. 1836). Wood's *A. ciliata filifolia* (Class-Book 589. 1861) though inadequately described, is doubtless intended for the same thing. The description of *A. angustifolia* (Ait.) Michx., which has always been considered synonymous with *A. ciliata* Walt., might apply equally well to the narrow-leaved variety also.

A. ciliata is represented in my collections by *no. 1166*, in fruit, from dry pine-barrens in Mitchell County, Aug. 7, 1901, and the narrow-leaved form from the following counties: Dooly (*no. 577*, in fruit), Bulloch (*no. 915*, in fruit), and Laurens (*no. 2138*, in flower). The latter has also been collected along the Flint River near Albany by Dr. Small in May, 1895, and in Leon County, Florida, by Mr. Nash in September of the same year (*no. 2546*). Its total range is as yet unknown.

ANONYMOS CAROLINIENSIS Walt. Fl. Car. 91. 1788

Batschia carolinensis (Walt.) Gmel. Syst. 2: 315. 1791.

Lithospermum carolinianum Lam. Tab. 1: 396. 1791.

L. hirtum (Muhl.) Lehm. Asperif. 305. 1818 (and most 19th century authors).

L. carolinense (Walt.) MacMillan, Met. Minn. 438. 1892.

L. Gmelini (Michx.) Hitchcock, Spring Fl. Manh. 30. 1894 (and most subsequent authors).

Mr. Mackenzie* has recently pointed out that Lamarck's *Lithospermum carolinianum* is a synonym of *L. Gmelini*, instead of a conflicting homonym as was thought to be the case a few years ago. But the identity of Lamarck's plant is not of fundamental importance in the present case, since the specific name dates back to Walter, three years earlier, as was noted by MacMillan in 1892, but apparently by no one else who has mentioned this plant since his time. (Several other synonyms for it can be found in MacMillan's work.)

A careful scrutiny of the above synonymy will disclose several problems which do not seem to be provided for in any set of rules

* Bull. Torrey Club 32: 501. 1905.

for nomenclature, and the exact designation of this plant will depend somewhat on the rules used. It would be beyond the scope of this paper to discuss these problems fully, but I will briefly indicate some of them for the benefit of those who are more interested in such matters.

In the first place, Walter had quite a number of *Anonymos* genera, as is well known, and in several of them he used the specific name *caroliniensis*. The first *Anonymos* of course invalidates all the rest, but shall the first one be recognized? (It happens to be a good genus, and was named *Tubiflora* by Gmelin and *Elytraria* by Vahl. The only species included in it by Walter bore the specific name in question.) Second, does the first *Anonymos caroliniensis* invalidate all the rest (ours among them)? Third, shall the original spelling of the specific name be maintained? Fourth, if *Anonymos caroliniensis* is a homonym, does that affect the validity of *Batschia caroliniensis* Gmel. and *Lithospermum carolinianum* Lam.? Fifth, which of the two last-mentioned names is older? Sixth, if the third and fourth questions are answered in the negative, shall we call our plant *Lithospermum carolinianum* Lam., *L. carolinianum* (Walt.) Lam., or *L. carolinense* (Walt.) MacM.?

The last problem could be partly circumvented by recognizing Gmelin's genus *Batschia*, which was founded on this species alone, and seems as distinct as many other genera now recognized.

- VERBENA CARNEA Med. ; Schauer in DC. Prodr. **11** : 545. 1847
 ? *Phryma caroliniensis* Walt. Fl. Car. 166. 1788 ; Gmel. Syst. **2** :
 921. 1791.
V. caroliniana Willd. Sp. Pl. **1** : 119. 1798 ; Pursh, Fl. Am.
 Sept. 417. 1814 ; Nutt. Gen. **2** : 40. 1818 ; Ell. Bot. S. C.
 & Ga. **2** : 99. 1821.
V. caroliniana "L." ; Michx. Fl. **2** : 14. 1803 ; Wood, Class-
 Book 537. 1861.
 " *V. caroliniana* Michx." ; Chapm. Fl. So. U. S. 307. 1860 ;
 Gray, Syn. Fl. **2** : 336. 1886.
 " *V. Carolina* L." ; Mohr, Contr. U. S. Nat. Herb. **6** : 693. 1901.
V. carolinensis (Walt.) "Gmel." ; Small, Fl. S. E. U. S. 1009.
 1903.

(Not *V. Carolina* L. Sp. Pl. ed. 2. 29. 1762, nor *V. caroliniana* Gmel. Syst. 2: 42. 1791, both of which are based on *V. carolinensis* Dill. Hort. Elth. 407. pl. 301. f. 388. 1732.)

Stylodon scabrum Raf. Neog. 2. 1825.

A study of the synonymy of this characteristic southeastern coastal plain plant has revealed a surprising amount of carelessness in citation of names, as has been the case with several other species having a similarly restricted range. The *Verbena Carolina* of Linnaeus was based on a plate and description by Dillenius, which cannot be referred to our plant, and a brief description by Ray, which may belong to the plant in question, as suggested by Gray, though the evidence is insufficient. The first valid name under *Verbena* seems to be *V. carnea*, as above indicated, though Rafinesque 22 years earlier had made this same plant the type of a new genus, *Stylodon*. I am by no means convinced that Rafinesque's genus is not a good one, so I will not cumber synonymy by transferring his specific name to *Verbena*.

***Clinopodium georgianum* nom. nov.**

Thymus carolinianus "(Walt.)" Michx. Fl. Bor. Am. 2: 9. 1803.

Calamintha caroliniana (Michx.) Nutt. Gen. 2: 39. 1818; Sweet, Hort. Brit. 315. 1826.

C. caroliniana "Sweet"; Benth. in DC. Prodr. 12: 229. 1848; Chapm. Fl. So. U. S. 317. 1860; Gray, Syn. Fl. 2: 360. 1886; Jackson, Ind. Kew. 1: 375. 1895.

C. caroliniana "Swartz"; Wood, Class-Book 548. 1861.

Melittis caroliniana Spreng. Syst. 2: 700 (in part). 1825.

Melissa caroliniana (Michx.) Benth. Lab. 388. 1834.

"*Clinopodium carolinianum* Mill."; Jackson, Ind. Kew. 1: 565 (as syn.). 1895.

C. carolinianum (Michx.) Heller, Cat. N. Am. Pl. 7. 1898; Small, Fl. S. E. U. S. 1043. 1903. (Not of Mill. Gard. Dict. ed. 8. 1768.)

C. carolinianum "(Walt.) Kuntze"; Mohr, Contr. U. S. Nat. Herb. 6: 700. 1901.

Thymus grandiflorus Sims, Curt. Bot. Mag. 25: pl. 997. 1807.

Calamintha grandiflora (Sims) Pursh, Fl. Am. Sept. 414. 1814; Ell. Bot. S. C. & Ga. 2: 93. 1821.

(Not *Melissa grandiflora* L., *Calamintha grandiflora* (L.) Moench
Clinopodium grandiflorum (L.) Kuntze, a European species.)

The bibliographic history of this handsome little southern shrub is even more complicated than in the case of the *Verbena* just mentioned. The plant seems to have been first noticed "*in Carolina et Georgia, secus amnem Savannah, ad urbem Augusta*," by Michaux, who named it *Thymus carolinianus*, supposing it to be the same as Walter's *Thymbra? caroliniana*. But according to Elliott, Walter's *Thymbra* was identical with the type of his own new genus *Macbridea*.^{*} (Walter's description alone would scarcely suffice to identify the plant, but Elliott may have had some other evidence.) Sims, however, figured a plant which is clearly the same as ours, but identified it confidently with Walter's, and changed the specific name so as not to conflict with Michaux's *Thymus carolinianus*, whose identity he doubted.

Pursh and Elliott placed the species in *Calamintha*, using Sims's specific name, regardless of the fact that Moench had used the same combination twenty years earlier for a European plant. Nuttall was the first to combine *Calamintha* with Michaux's specific name, but Bentham, Chapman, Gray and the Kew Index credit this binomial to Sweet, notwithstanding the fact that Sweet plainly refers to Nuttall, and Nuttall's citation and description are perfectly satisfactory.

In 1891 Kuntze transferred all our species of *Calamintha* to *Clinopodium*, and noticing that there was already a *Clinopodium carolinianum* (described by Miller long before Michaux's *Thymus* or even Walter's *Thymbra*), changed the specific name of our plant, as he thought, but erred (presumably) in making it synonymous with Walter's *Thymbra*; so if we accept Elliott's views, Kuntze's *Clinopodium Walterianum* becomes a synonym of *Macbridea*. A few years later Mr. Heller fell into the trap that Kuntze avoided, and took upon himself the credit for the supposed new combination *Clinopodium carolinianum*. Dr. Mohr in

^{*} MACBRIDEA PULCHRA Ell.; Nutt. Gen. 2: 36. 1818; Ell. Bot. S. C. & Ga. 2: 86. 1821; and most subsequent authors.

Thymbra? caroliniana Walt. Fl. Car. 162. 1788. (*vide* Ell.)

Melittis caroliniana Spreng. Syst. 2: 700 (in part). 1825.

Macbridea pulchella Benth. Lab. 505. 1834; DC. Prodr. 12: 435. 1848.

Clinopodium Walterianum Kuntze, Rev. 516. 1891 (excl. syn. Sweet).

1901 seems to have taken for granted that Kuntze was the author of this combination as of many others in the same genus.

Just what plant Miller had in mind is an open question. In the Kew Index his *Clinopodium carolinianum* is made a synonym of "*Calamintha caroliniana* Sweet," but his description does not justify this disposition of it, and it would be a remarkable coincidence if it did. So as long as *Clinopodium* is accepted as the name of this genus both specific names which have been given to our plant are preoccupied, and I have ventured to rename it in honor of the other of the two states where Michaux first saw it, which is centrally located with respect to the known range of the species. For those who would retain *Calamintha* the specific name *caroliniana* is still available, if we disregard Michaux's reference to Walter, or accept Sims's views.